Exercise 1

Define a function that creates a vector A ordered from least to greatest, for example, A =(2,4,5,7); ask for a number by keyboard that is between the minimum number of the vector and the maximum; in the example it would be 2 and 7; check if the number keyboard input exists in vector; if it does not exist you must insert it in the position correct, in order from least to greatest:

a) using the sort ().

b) without using the sort ().

Exercise 2

Create a function called "CalculateData". The function should create an array with the notes of the students of two subjects. The function should show the data as shown in the example, including row and column names. The function shall:

- Calculate which is the minimum and maximum grade of each subject

- Calculate which is the minimum and maximum grade of both subjects

- Calculate how many students have passed both subjects

- Ask the teacher for a grade (consider that the grade is valid); shall count how many students have obtained that grade.

Exercise 3

Create a "Hit" function. The function must create a vector, for example A =(2,3,6,1,7,1). Next you must create an array with “*”, as many as numbers in the vector beech. The function must request numbers (between 1 and 10) from the user by keyboard, it must check if that number exists in the vector, if it exists you must put in the place of the number an "*" and insert the number in the matrix.

a) The user can enter as many numbers as elements in the vector beech.

b) The user must enter numbers until there is no “*” in the matrix

Exercise 4

Create a function called "CalculateHeightandWeights". The function should create an array with the data shown in the table including the row names and columns. The function shall:

- Calculate what is the height and the minimum weight.

- Calculate how many people have exceeded the average weight and height of the table data

- Request a height and weight to the user (consider that they are valid data) must count how many people qualify.

d) Perform the exercise with while loops

e) Perform the exercise with for loops

f) Perform the exercise with repeat loop

> ej3 ()

	Height	Weight
Pepe	1.70	70
John	1.65	70
Antonio	1.80	76

The minimum height is: 1.65

The minimum weight is: 70

There are 1 that exceed or equal the weight and average height (1.716667, 72)

[1] "Enter a height: 1.70

[1] "Enter a weight: 1:70

There are 1 people with the entered height and weight